Michael Voisin
Chairman, Louisiana Oyster Task Force
Owner of Motivatit Seafood, Inc.

Testimony

Before the Subcommittee on Water Resources and Environment and the Subcommittee on Economic Development, Public Buildings, and Emergency Management
United States House of Representatives*

Hearing on "A Vision and Strategy for Rebuilding New Orleans"

October 18, 2005

I am Mike Voisin Chairman of the Louisiana Oyster Task Force a governmental agency within the Louisiana Department of Wildlife and Fisheries composed of Oyster Industry Association and Governmental Agency appointees. The Louisiana Oyster Task Force was created by the 1988 Louisiana Legislature with the directive to strengthen the oyster industry. I am currently President of the Molluscan Shellfish Committee (a part of the National Fisheries Institute (NFI)) and a board member of the Gulf Oyster Industry Council (GOIC) and the Louisiana Oyster Dealers and Growers Association (LODGA).

I am a seventh (7^{th}) generation oyster farmer and processor. Our farm comprises approximately 14,000 acres of water bottoms in Coastal Louisiana which produces between 15 million to 25 million pounds of in-shell oysters annually. This represents 45 million to 75 million individual oysters that we harvest on an annual basis. Since our oysters take anywhere from 2 to 4 years to grow to harvest size, this means that at any one time our farm may have anywhere from 135 million to 225 million individual oysters on it.

The State of Louisiana produces approximately 250 million in shell pounds of oysters annually or 750 million individual oysters with a similar growth cycle of 2 to 4 years to market size, this means that at any one time there are approximately 2.25 billion oysters in our oyster farms and public producing areas. The Gulf States combined with Louisiana produce annually approximately 500 million in shell pounds of oysters, totaling approximately 1.5 billion individual oysters and maintaining approximately 4.5 billion individual oysters in Gulf producing areas at any one time.

Hurricane's Katrina and Rita dealt a harsh blow to the oyster and seafood community in Louisiana. Being a seventh generation oysterman in Louisiana, our family has never been impacted by a disaster as drastically as by these hurricanes. It's been 2 months now that oyster harvest in Louisiana has been shut down for the production of oysters. Louisiana is the leading producer of oysters in the U.S. accounting for over 40% of the nations oysters. Louisiana oystermen land over 250 million lbs. of in-shell oysters, or about 750 million individual oysters annually.

Louisiana is second only to Alaska in total seafood landings, while we lead the nation in crawfish, shrimp, and oysters. We also have a wealth of fresh and saltwater finfish that has made our State one of the largest commercial and recreational fisheries in America. Fishing, farming, and processing these seafoods has been culturally important for hundreds of years to the people of New Orleans and its coastal communities. We need this Congress and this Administration to help these hard working Louisiana seafood businesses get back on their feet by providing us with the resources to get us back to work again.

The History of the Oyster and Seafood Business in New Orleans and Coastal Louisiana

The State of Louisiana as well as the City of New Orleans has had a long history being the seafood capitol of the Deep South. Dating back to 1682 when La Salle claimed Louisiana for Louis the XIV, he found that there was an abundance of seafoods. As early as 1805 the Louisiana Gazette reported oyster peddlers were very aggressive and vocal selling oysters on the streets of New Orleans. The early oyster dealers would stand on street corners and serenade the town from morning until night blowing conch shells to advertise they had oysters fro sale.

Commercial harvest of oysters dates back to the early 19th century. French, Acadian, Croatian, Spanish, and Sicilian immigrants living in New Orleans and the coastal communities are credited with fishing and selling oysters in the French Market of New Orleans. As the natural oyster reefs became depleted from over fishing, the oyster fisherman became farmers. They found that by planting small oysters from the natural reefs into a better growing area, they could grow market oysters fatter and saltier to bring to market which in turn brought them better profits. But there were no laws governing the waterbottoms of Louisiana which protected the rights of these farmers property. So in 1886, the Louisiana legislature passed laws giving the coastal parishes the right to lease the waterbottoms to these farmers giving them the right to protect their property from thieves. In 1898, the U.S. Fish Commission conducted a study of the natural reefs in coastal Louisiana. The study recommended that the State of Louisiana grant permanent tenure to barren waterbottoms for the purpose of cultivation by allowing these oystermen to purchase or lease them in perpetuity to induce people into the oyster culture business. Because of that study, in 1902, the Louisiana Oyster Commission was created and is known as the first wildlife conservation agency in Louisiana.

Who makes up the Oyster Community

The present day oyster community is made up of commercial fisherman, oyster farmers, oyster dealers, and oyster processors. Oyster fishermen are people who utilize the natural renewable oyster resource as they grow on public oyster reefs. These commercial fishermen usually harvest oysters seasonally and will harvest shrimp, crabs, and finfish during other times of the year.

The oyster farmer is a fulltime oysterman that leases barren waterbottoms from the State and cultivates those waterbottoms. By State law, oyster waterbottom leaseholders must cultivate these leases to retain property rights. Some cultivation methods include planting cultch material such as dead reef shells, crushed concrete or limestone, so as to make the waterbottoms suitable to plant and grow-out oysters. Once these waterbottoms are fit for planting, he'll grow his own seed oysters or he'll use the newly planted reef to grow market oysters. He'll also plant seed oysters from the State's oyster seed reservations and grow those seed oysters to market size that can take 2-3 years.

The oyster dealer purchases oysters from oyster fishermen or oyster farmers and sells truckloads of oysters to processors both within and outside the State of Louisiana.

The oyster processor buys oysters from fisherman, farmers, and dealers and shucks the oyster meat out of the shell and packs the meat in containers. Shucked oysters are sold to restaurants, grocery stores, seafood markets, and food service distributors. The oyster processor also "culls" or picks out the prime "counter (1/2 shell) oysters" that are sold to oyster bars and seafood markets across the U.S..

Oyster Farming Facts

To many people who are not involved in the oystering on a regular basis, the Louisiana's system of public and private farming can seem confusing. In reality, though, the system is fairly simple.

It begins with the understanding that oystermen and women are not merely harvesters, but farmers who must seed their acreage, cultivate and maintain it, protect it from man-made and natural threats, and only then harvest it for sale to the consumer. History shows that this system best protects the interests of the State of Louisiana, the consumer, and the oyster farmer.

Two basic types of oyster farming:

Public harvests

Fundamentally, Louisiana has two types of oyster areas: public grounds and private bedding grounds.

Public oyster harvesting takes place in the vast majority of Louisiana's water bottom acreage (approximately 2 million acres) but only accounts for about 20%-40% of all oysters landed in Louisiana.

Private farming

Private leasing began in 1886, facilitating major investment in water bottoms from Louisiana's oyster farmers. Today there are approximately 400,000 acres leased for private farming with significant acreage not currently under lease and still available.

Upon determining that a private leasing area may be suitable for oyster cultivation, a qualified citizen of the state of Louisiana must apply for acreage in that area. This application takes place at the Louisiana Department of Wildlife and Fisheries. The applicant must pay a significant application and survey fee based on size of area to be leased. In addition, the lessee must also pay annual rental fees.

The acreage is then surveyed, either by a private surveyor or by a state surveyor depending on the decision of the prospective farmer. The Louisiana Department of Wildlife and Fisheries in New Orleans maintain a copy of the survey.

Reasons For Maintaining The Current Lease Systems

As we have seen above, the growth in Louisiana's oyster industry, and the increase in benefits to the state of Louisiana are directly tied to the foresight of policy makers during the late 1800's and early 1900's. Without the stability provided by a system of private leasing, and the assurance that leaseholders will be able to maintain their holdings through a 15-year lease and beyond, there would be little incentive for Louisiana's oyster farmers to invest large sums of money and their valuable time in improving their acreage.

The result of that lack of incentive would be:

- Lack of financial investment.
- Fewer jobs in the industry and in related fields such as processing, transportation, equipment sales, etc.
- Higher prices for Louisiana oysters which could lead to lower consumer demand and therefore lower sales.
- Reduced state tax revenue.

Efforts to substantively change Louisiana's long time system of private leasing would be misguided and ignore the important influence the stability of long term leasing provides for oyster farmers and the state respectively.

Moreover, the case for radically changing or even eliminating the current system fail to acknowledge that private lease acreage only represents a modest portion of all available waterbottoms. In fact, more than 80% of all waterbottoms are available for public harvesting and are open to one and all without a lease.

Additionally, proponents of a change in policies fail to acknowledge that only a small portion of acreage set aside for leasing is actually under contract at any point in time. The availability of acreage not presently under lease means that people who do want to enter the industry always have ample opportunity to do so.

Risks to the Industry and the Families That Depend On It

Few industries in Louisiana are as vulnerable to as many different sources of risk as the state's oyster industry. From Mother Nature to man-made threats, the families that work in the oyster farming and processing industries are constantly challenged.

One consistent line of defense for the oyster community however, is the state's current leasing policy which provides at least some stability and assurance that leaseholders will have access to their costly investments for many years regardless of what other threats may be posed to the industry.

Specific risks: naturally occurring

Hurricanes and other storms

Devastating hurricanes such as Katrina and Rita present a considerable challenge to Louisiana's oyster farmers. Storm surges cause scouring of the reefs, siltation on top of the reefs, and overburdening with marsh grasses on the reefs. The surges can also drive huge amount of salt water into bays, inlets and other waterways inhabited by millions of oysters, raising the salinity to threatening levels that risk the very existence of oysters in impacted areas.

Likewise, high river stages and massive rainfall also tend to move freshwater from some bodies of water into oyster beds lowering salinity levels and threatening oysters from that angle as well.

Weather cycles

Successful oyster harvesting is also highly dependent on various weather cycles, most notably wet and dry cycles that can change conditions for the oysters and impact their size, health and marketability. Dry cycles are especially hazardous because they bring drought and the numerous predators that come with it when the salinity exceeds 15 parts per thousand. (Ideal salinity levels are around 10-15 parts per thousand).
Dry seasons also spawn various harmful diseases that have the potential to decimate oyster beds.

Wet seasons bring excessive water and an influx of freshwater into the more salty waters of the coast, particularly during the Spring.

Excessively wet or dry, weather often upsets the fragile conditions and tenuous environment in which the state's private and public oyster beds are found.

However, Louisiana's oyster farmers have largely learned to work within these cycles, protecting their crops and their investments in the process.

Predators

Oysters have many natural enemies that may routinely kill or harm them including drumfish, redfish, "oyster drills" and other small and intrusive marine life that feast on oysters and other shellfish.

Public policy

Without much argument, most state and federal legislative and regulatory initiatives serve to protect the integrity of $300 million annual economic impact created by the oyster industry. As such, the state's oyster community strives to work closely with the Congress, our state legislature, Governor, and agencies like the Louisiana Department of Natural Resources, and the Louisiana Department of Wildlife and Fisheries, to formulate and implement policies which are as fair, reasonable and beneficial as possible to as many interests as possible.

History shows that the oyster community supports coastal restoration initiatives and has been instrumental in helping to encourage and create a fair and equitable relocation program that protects the interests of all parties while limiting the financial impact on each.

The Value of the Oyster Community

The oyster community provides Louisiana residents with over 3300 fulltime jobs, 6700 part-time jobs, an annual dockside value of over 33 million dollars, State income taxes of over 2 million dollars, State sales taxes of over 9 million dollars, and retail sales of over 223 million dollars or a total economic impact to the State of Louisiana of nearly 300 million dollars.

The State of the Oyster Resource following the Hurricane's

According to the Louisiana Department of Wildlife and Fisheries, (DWF), oyster biologists began sampling 2-weeks post-Katrina and every week thereafter until the present. Their findings on the public grounds across the State had significant oyster mortalities. They found that east of the Mississippi River in the Mississippi Sound, there was approximately a 70% mortality rate. In the primary public oyster grounds east of the Mississippi River in the Black Bay area there is approximately a 46% mortality rate. West of the Mississippi River in the Barataria Basin, Hackberry Bay had approximately a 60% mortality rate. In the central part of the State in Terrebonne Parish there is approximately a 30% mortality rate. In the western central Parishes of Iberia and Vermillion, there is approximately a 5% mortality rate. And in the far western part of the State in Calcasieu Lake there is approximately a 15% mortality rate.

This past Friday we were dealt another blow by the Louisiana Department of Health and Hospitals, (DHH). Those of us who didn't lose our boats, trucks, and oyster plants were told by DHH that the bacteriological quality of the oysters remaining on the reefs in Louisiana do not yet meet the National Shellfish Sanitation Program. That means we're going to have to wait another week to find out if the water quality has improved enough so we can begin operations again.

Coastal Erosion and the Oyster Community

Few industries in Louisiana are more dependent on a pristine and stable eco-system than the oyster community and few people have been engaged in protecting our environment and coastline as long as oyster farmers.

The state's oystering community first saw the damaging effects of coastal erosion on oyster beds and harvests in the 1940's, sounding the alarm for many people who make their livings along the coast.

Coastal Restoration and Oyster Farming

By its very nature, building reefs minimizes the loss of coastline. Also, commercial oyster farming helps to rebuild the coastline through the costly and timely building of oyster beds. This process calls for the oyster farmers to seed and cultivate reefs in bays and inlets along the coast, staving off erosion and saltwater intrusion. However, proper cultivation and maintenance of reefs is only possible when the private leaseholder has the state's assurance that their leases will not be restricted in such a way that threatens their significant investment.

In reality, Louisiana's oyster farmers have much at stake in the battle to fight coastal erosion. The fact is oystermen were among the very first communities to understand the dangers posed by coastal erosion, and to call for action to reverse this dangerous and costly ecological trend.

As long ago as the 1940's and 1950's, leaders of the state's oyster industry began working with state and federal officials to understand the impacts of a diminishing coastline, and to devise effective policies to counter the loss of our valuable coast. Notably, oyster industry groups took a lead in asking federal agencies to address the problem of coastal erosion. Since the 1970's, working with agencies such as the Department of Natural Resources, Department of Health and Hospitals, and the US Army Corp of Engineers, oyster industry groups including the Louisiana Oyster Task Force and Louisiana Oyster Dealers and Growers Association have played a central part in studying the problem and in recommending common sense approaches to solving it.

In fact, in the 1940's, local oyster farmers in Plaquemines Parish were instrumental in planning and undertaking the first freshwater diversion project near Olga on the east side of the river. The work of these early coastal restoration pioneers, who clearly understood the value of diverting freshwater into areas deprived of freshwater, was followed by Plaquemines Parish diversion efforts at Bohemia near White Ditch and State efforts at Bayou Lamoque in the 1970's.

It is commonly understood that a loss of coastal land mass can negatively impact oyster harvests, and force the relocation of oyster beds. Clearly, these nature-driven relocations are expensive and destroy years of hard work in reef development, seeding and cultivation.

Moreover, because virtually all oyster farmers live near the coast, raising their families in environments threatened by land loss, farmers have more than just the viability of their own businesses.

In 1995, leaders of the oyster industry requested the Louisiana Congressional delegation present legislation that would pay for relocating oyster farms impacted by the Davis Pond Diversion Structure. In the 1997 Water Resources Development Act, Congress authorized and funded a $7.5 million credit to the state of Louisiana toward the Davis Pond Project cost that would fund the "Oyster Lease Relocation Program". The last two years we've made another request of our Congressional delegation to present legislation to relocate farms that will be impacted by new freshwater diversion projects that are planned.

Working together with state and federal agencies, leading academics and groups active in pursuing new coastal protection policies, the industry facilitated the creation of broad-based committees to review contemporary policies and future plans for coastal restoration and freshwater diversion. The result was a breakthrough in open communication and cooperation, though some issues still remain unresolved.

Notably however, the Oyster Lease Relocation Program, as enacted by the state legislature, seeks to minimize the impact on oyster farmers when major coastal restoration initiatives will pose threats to existing beds. That this program works effectively is proven by the new Davis Pond freshwater diversion project in St. Charles Parish and the fact that all lease holders in the impacted area have chosen to participate in the program.

Other efforts at working together with all parties have yielded similar policy improvements including legislation creating short term or "bobtail leases" in projected impact zones. These 1-14 year leases apply to areas where the state and federal governments indicate future projects may soon have an adverse impact on oyster farmers, protecting both the farmer and the state in the process.

This development then led the industry and state to push for enactment of still more laws to protect the state from liability issues in other areas close to projected impact zones. In these cases, farmers take leases with the full and complete recognition that their acreage is likely to suffer from coastal restoration efforts, thereby waiving their rights to seek remedy for any damage that does occur.

Today, as another result of this increased cooperation, the state Department of Natural Resources provides maps to oystermen each August 15th which shows future plans for coastal restoration projects so that farmers may make September planting decisions with the full knowledge of risks that may arise.

Likewise, the industry now is required to give the state complete information on areas planted, quantities harvested from lease and the market value of those harvested oysters. This exchange of information protects the state and allows it to make better informed decisions on future policy.

Still, some issues remain to be resolved including the establishment of a new relocation fund to make sure that the costs of relocation do not come from restoration project monies but instead, from a different source such as state and federal tax credits.

As these issues continue to evolve, and the state accelerates efforts to fight coastal erosion, the Louisiana Oyster Task Force continues to seek a "seat at the table" and to be a contributing party to the debate. Candid comment on work of the Governor's Committee on the Future of the Coast and on other task force initiatives will ensure that a full range of views and opinions are heard and that the most effective policies are enacted.

Recommendations

The first step that needs to be taken is to provide funds to remove the debris from the navigational channels leading to and from the area docks. St. Tammany Parish, St. Bernard Parish, Plaquemines Parish, Jefferson Parish, Lafourche Parish, and Terrebonne Parish in southeastern Louisiana as well as Cameron Parish in the southwestern part of the State navigational channels are cluttered with debris.

Second, provide funds to the public and state oyster reefs need to be cleaned from debris and lifted from under the silt and dead marsh grass smothering the reefs. In 1992 following Hurricane Andrew, Congress appropriated funds to clean the oyster reefs. The DWF put a plan in place allowing the commercial fisherman, including oyster, shrimp, crab, and finfish fisherman, to pull open dredges to lift the reef and remove the marsh grass. That program was very successful.

Third, provide funds to repair or rebuild seafood docks and dry docks that are used to unload our catch, supply fuel and water to our boats, and repair our boats.

Fourth, provide funds for cultch planting on damaged oyster reefs using shells purchased from oyster processing facilities, dead reef material, crushed limestone or crushed concrete to reestablish the oyster reefs and allow for a clean reef that will support an oyster spat set.

Fifth, provide funds to install a State oyster hatchery facility or purchase seed from an existing facilities to supplement natural spawning this year and in future years to improve productivity.

Sixth, provide funds to seafood vessel owners, oyster farmers and oyster and seafood processing facilities that suffered both physical and economic losses caused by Hurricane’s Katrina and Rita so we can get back to providing jobs, planting, harvesting, and selling oysters and seafood, and paying tax revenues to the Municipal, State and Federal government’s.

Seventh, provide funds to rebuild the levee system and restore the coast of Louisiana to protect the U.S. citizens from another catastrophic disaster as these hurricanes have done to our home.

Conclusion

The Louisiana oyster and seafood community has suffered significant economic and physical losses due to Hurricane's Katrina and Rita. Oyster and seafood farming, harvesting, and processing are culturally important as a economic engine that has provided income to coastal and municipal residents for hundreds of years. Coastal erosion in Louisiana has been a problem for decades and restoring the coast in Louisiana is imperative to protect citizens in south Louisiana as well as the numerous businesses that are important to the U.S. economy. Providing funds to reestablish the oyster and seafood businesses is necessary to start their economic engine again.

Below is information provided by the Louisiana Department and Wildlife and Fisheries.

The Louisiana Department and Wildlife and Fisheries estimates that storm related fisheries losses at the retail level could exceed $2 billion over the next year. The latest estimates combine $981 million in production losses for parishes affected by Hurricane Rita with the $1.29 billion losses projected for areas damaged by Hurricane Katrina for a total of $2.27 billion. That number represents 80 percent of the total commercial and recreational retail harvest values in 2003, based on sales levels of $2.85 billion.

Louisiana Commercial Fisheries

	Landings	Retail Sales	Total Economic Effect	Earnings	Jobs Supported	Sales Tax Revenues	State Income Tax Revenues	Fed. Income Tax Rev.
Freshwater Finfish	$3,326,997	$22,123,793	$29,498,390	$4,742,920	331	$909,183	$218,077	$1,364,794
Marine Finfish	$83,913,848	$558,008,489	$744,011,319	$119,626,391	8,344	$22,931,492	$5,500,369	$34,422,978
Freshwater Shellfish	$4,844,448	$32,214,505	$42,952,674	$6,906,176	482	$1,323,863	$317,543	$1,987,280
Marine Shellfish	$202,040,322	$1,343,523,357	$1,791,364,476	$288,025,817	20,089	$55,212,412	$13,243,302	$82,880,595
TOTAL:	$294,125,615	$1,955,870,144	$2,607,826,859	$419,301,304	29,245	$80,376,949	$19,279,291	$120,655,648

Species-Specific Fisheries

	Landings	Retail Sales	Total Economic Effect	Earnings	Jobs Supported	Sales Tax Revenues	State Income Tax Revenues	Fed. Income Tax Rev.
Menhaden	$58,443,314	$388,635,084	$518,180,111	$83,315,959	5,811	$15,971,051	$3,830,832	$23,974,505
Shrimp	$134,966,339	$897,496,238	$1,196,661,650	$192,406,098	13,420	$36,882,822	$8,846,749	$55,365,634
Oysters	$33,375,501	$221,939,684	$295,919,578	$47,579,641	3,319	$9,120,664	$2,187,691	$13,691,234
Blue crab	$33,604,768	$223,464,258	$297,952,345	$47,906,481	3,341	$9,183,317	$2,202,719	$13,785,284
Catfish, freshwater	$1,797,739	$11,954,566	$15,939,421	$2,562,831	179	$491,276	$117,838	$737,465
Crawfish	$4,808,841	$31,977,727	$42,636,969	$6,855,416	478	$1,314,132	$315,209	$1,972,674

Summary: Preliminary Louisiana fishery losses caused by Hurricanes Katrina and Rita (10/12/2005)

Hurricane Katrina affected Orleans, Jefferson, St. Bernard, Plaquemines, St. Tammany, Tangipahoa, Livingston, Ascension, St. James, St. John the Baptist, St. Charles, and ½ of Lafourche parishes.
Hurricane Rita affected ½ of Lafourche, Terrebonne St. Martin (for 6 month each), Assumption, Iberville, Point Coupee, St. Landry, Acadia, Avoyelles, St. Mary, Iberia, Jefferson Davis, Vermilion, Calcasieu, and Cameron (for 12months each) parishes.

Category	Potential Production Losses at Retail Level Hurricane Katrina	Potential Production Losses at Retail Level Hurricane Rita	Total potential production losses at retail level
Crab	$ 81,776,427	$ 68,255,059	$150,031,486
Freshwater Fish	$ 1,256,934	$ 19,014,988	$20,271,922
Oysters *	$ 296,427,648*	$ 82,287,284	$378,714,932
Saltwater Fish**	$ 172,145,944**	$ 182,390,804	$354,536,748
Shrimp	$ 538,996,879	$ 380,354,398	$919,351,277
Wild Crawfish	N/A	$ 27,706,395	$33,691,720

Recreational Fisheries	$ 199,517,744	$ 221,383,678	$420,901,422
Freshwater Fish Loss	N/A	N/A	N/A
Total	**$ 1,290,121,576**	**$981,392,606**	**$2,271,514,182**

* Oyster losses are for two (2) years.
** Includes Gulf Menhaden

Recreational Fishing[1]

	Retail Sales	Total Economic Effect	Earnings	Jobs Supported	Sales Tax Revenues	State Income Tax Revenues	Fed. Income Tax Rev.
All Fishing:	$895,330,569	$1,631,816,196	$395,247,350	16,999	$49,713,013	$9,690,254	$60,670,849
Residents Only:	$807,716,796	$1,464,823,549	$354,565,762	15,225	$44,611,184	$8,679,051	$54,339,688
Non-Residents Only:	$87,613,773	$166,992,646	$40,681,588	1,774	$5,101,829	$1,011,203	$6,331,161
Freshwater Fishing:	$444,590,117	$806,828,401	$196,831,680	8,419	$25,357,736	$4,842,357	$30,344,487
Residents Only:	$415,362,842	$751,396,310	$184,501,796	7,890	$22,700,579	$4,538,183	$28,438,386
Non-Residents Only:	$29,227,275	$55,432,091	$12,329,884	529	$2,657,157	$304,175	$1,906,101
Saltwater Fishing:	$435,324,520	$792,578,882	$190,687,663	8,276	$24,355,277	$4,648,248	$29,060,206
Residents Only:	$383,475,477	$694,762,015	$165,613,185	7,160	$21,910,605	$4,021,376	$25,141,087
Non-Residents Only:	$51,849,044	$97,816,866	$25,074,478	1,116	$2,444,672	$626,872	$3,919,119

1 Some categories in this table contain species also included in other categories. Do not sum the categories. The total impacts from all forms of fishing are presented in the first category, "All Fishing."

Recreational Boating

Retail Sales	Total Economic Effect	Earnings	Jobs Supported	Sales Tax Revenues	State Income Tax Revenues	Fed. Income Tax Rev.
$1,667,872,172	$1,927,223,430	608,668,091	22,741	$82,650,846	$16,442,817	$102,889,345

Guide and Charter boat Data

Angler Expenditures for Guides and Charter boats:

Freshwater fishing: $3.5 million (2.0% of all freshwater expenditures)
Saltwater fishing: $28.2 million (12.8% of all marine expenditures)

Percent of Marine Anglers Using Charter boat and Guide Services:
All Anglers: 8.6 percent
Resident Anglers: 3.5 percent
Non-Resident Anglers: 24.3 percent